**The Dissertation Committee for Alfredo Jacinto de Barros certificates that this is the approved version of the following dissertation:**

# Trails by a River

## For Large Orchestra and Electronic Sounds (MAX/MSP)

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# Trails by a River

## For Large Orchestra and Electronic Sounds (MAX/MSP)

by

**Alfredo Jacinto de Barros, M.A.**

**Dissertation**

Presented to the Faculty of the Graduate School of

The University of Texas at Austin

in Partial Fulfillment of the Requirements

for the Degree of

**Doctor of Musical Arts**

The University of Texas at Austin

December 2007

To Naila Barros, my wife, who has been so patient and who has inspired me on so many aspects of my work and life

## ACKNOWLEDGMENTS

I would like to express my deepest thanks to Naila, my wife, who has been immensely supportive and patient on all occasions and especially since the beginning of the long journey that led me to prepare this work. I would also like to express my gratitude to the members of my committee, Professors Samantha Krukowski, Eric Drott, Donald Grantham, Bruce Pennycook, and with a special remark to Russell Pinkston, my advisor, who has always been present when I needed his help and guidance.

Thanks also to my colleagues, especially to those who have shared a great deal of their time at the Electronic Music Forum, discussing many related musical aspects that had an important impact on my work. I am also indebted to Professor Yevgeniy Sharlat, whose dedication to helping me on many aspects directly related to preparing this work was very much appreciated.

I would also like to express my deepest admiration and gratitude to Jamary and Alda Oliveira, who have been models for my academic endeavors for a long time. Without their support, my goals would have been much more difficult to pursue.

This work would not have been possible without the sponsorship of the Brazilian CAPES foundation, to which I direct my sincere and deepest gratitude.

**Trails by a River**

**For Large Orchestra and Electronic Sounds (MAX/MSP)**

Publication No. _____

Alfredo Jacinto de Barros, D.M.A.
The University of Texas at Austin, 2007

Supervisor: Russell F. Pinkston

Trails by a River, for Large Orchestra and Electronic Sounds (MAX/MSP), is a work in which different compositional techniques come together. The work can be characterized as being in an eclectic style, involving aspects of practices such as micro polyphony, pointillism, spectralism, computer music, tonality, and other non-tonal categories. Although it cannot be referred to as a work that represents a style with a specific ethno-cultural background, the rhythmic foundations of certain parts are derived from some modern Afro-Brazilian folk genres, such as *candomblé*, mostly present in the Northeastern part of that country. The electronic part is conceived as a timbral extension of the orchestral sounds, and the MAX/MSP patcher used to generate it has a graphical interface that is designed to be a compositional tool. Hence, it can also be used for future projects. The overall formal design of the work can be described as being a multi-part form, with an almost continuous flow between the sections.

# TABLE OF CONTENTS

## Introduction

The project that led to the creation of *Trails by a River*, for Large Orchestra and Electronic Sounds, began in September 2006, with the idea of having a conjugation of electronic sounds that would be treated as a timbral extension of the orchestral sounds, and an approach to rhythmic materials that had some link to Afro-Brazilian modern folk music traditions. After some preliminary planning and research, the project was launched around May 2007, and since then, it has been a non-stop activity. For the electronic part the idea was to implement a MAX/MSP patch that would also work as a graphical interface to be used as a compositional tool for the development of future projects.

The discussion in the following pages explains the main aspects of both electronic[1] and orchestral parts and the interaction between them. I first discuss the MAX/MSP patch and the general ideas about its functions and components and how the electronic sounds it delivers are conceptualized. Following this, I discuss the general rhythmic and pitch materials that are most widely used in the piece. The discussion of the work itself begins with a general overview of formal aspects and follows with the observation, roughly section by section and with back-and-forth comparisons and references among them, of the most important compositional aspects that organize the piece as a whole. For the sake of efficiency, I addressed certain topics that could easily be independent subjects in their own right (e.g., orchestration, thematic derivations, etc.)

[1] The accompanying electronic material can be found at http://ems.music.utexas.edu/dwnld/alfredo_thesis/Trails_by_a_River_Max-MSP.zip

inside the main body of the paper, discussing them in the context of the piece, rather than approaching them as separated topics.

## Electronic Materials - MAX/MSP software

Max/MSP is a graphical programming language that is designed for real-time audio and MIDI processing. The way it operates, in a very simplistic explanation, is by having objects — which have specific functions and attributes — connected to each other through patch cords and send/receive objects. These objects may be placed in a workspace called a “patcher window,” which is a graphical environment where they are organized into a “patch." Linking and relating patches to each other is the means by which a user creates a finished program in Max/MSP, and determines, among other things, the way it interacts with the live performer. For this work I have designed a patcher whose capabilities include multiple sound file and midi playback, four channels each. However, the patcher can also be used in live performance, without the need of loading previously created material.

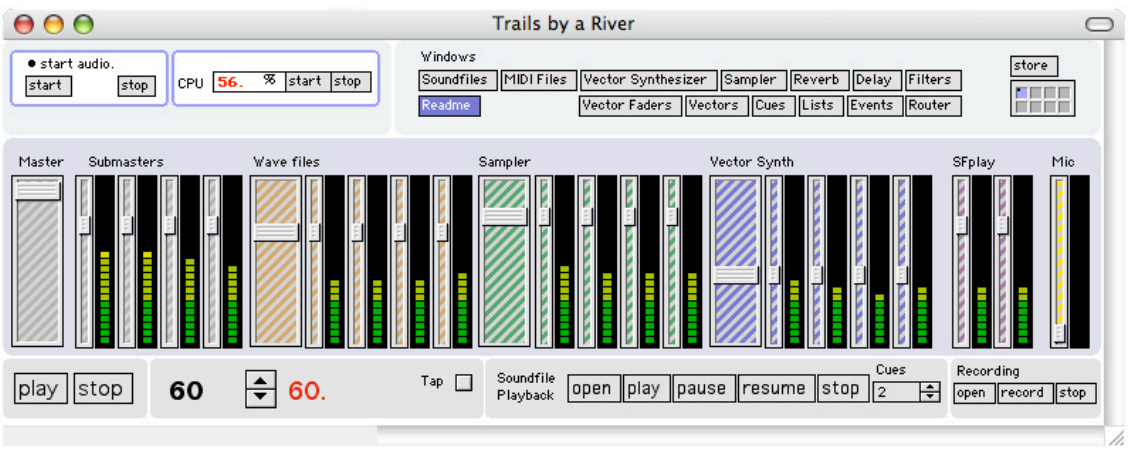



Figure 1: Patcher’s main window.

Figure 1 shows the patcher's main window, from which the computer user can reach all its subpatchers and operate them. The most important aspect of this patcher is the fact that it was developed with the aim of serving as a compositional tool that can be used not only for this piece, but for future projects as well. The composer, then, is provided with a set of units that have their own graphical interface, where operations such as data loading, deleting, saving, and recalling of all parameters as needed, are all available. Another important aspect is the fact that it is not, by conception, a closed piece of software. Other units of signal and MIDI processing, such as granulators, modulators, pitch shifters, etc., can readily be added.

At this point, what is provided are the following units: a reverb; a simple delay; biquad filters with different frequency adjustments and curve responses; a simple four channel sampler; a four channel vector synthesizer; a four channel audio playback

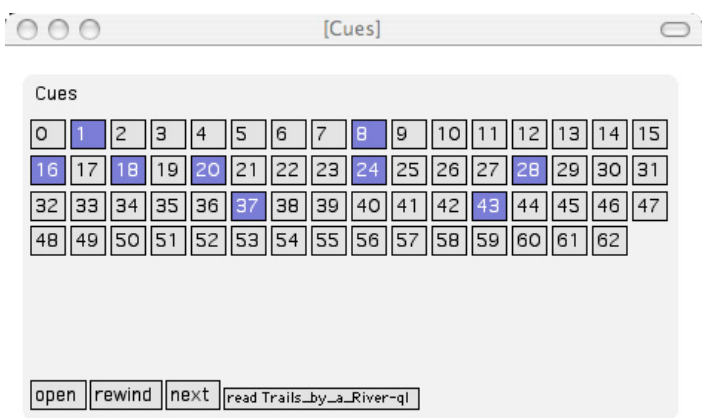


Figure 2: Cues window. Darker enclosures are key events during the performance, and cues at rehearsal time.

capability; a stereo sound file playback system for loading a mock-up of the piece with which the software will interact, used during several stages of the composing process; a beat tapping system, in order to maintain tempo synchronization during performance.

There are a few other important units that are not responsible directly for processing audio signals, but are directly related to monitoring and delivering the actual performance. Figure 2 show the Cues window, the set of numbered buttons that trigger the events as the piece goes on. Each event consists of a list of messages and parameters that are sent all at once to all units involved in the process. This window also provides the complete list of all automation, for editing purposes.

The Events Status window, shown if Figure 3, guides the performance by informing the operator which events are taking place at a specific moment and telling him/her what is the next step to follow. A more detailed discussion of the inner structure and components of the software is beyond the scope of this paper. Nonetheless, there is an important aspect that must be discussed before I move on to explaining the piece as a whole over the following pages.

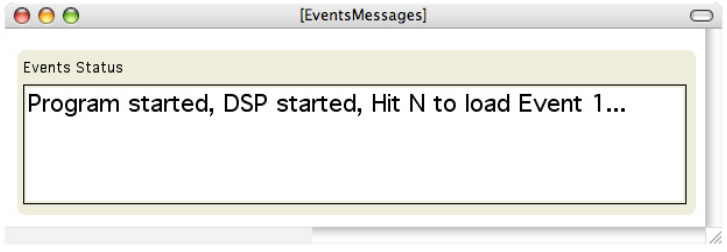



Figure 3: Events Messages window. From this window the performer is notified about the events that are taking place.

How does the electronic part of *Trails by a River* interact with its orchestral counterpart? My premise is that the electronic sounds should only play a role of serving as a timbral extension to the acoustic medium, just as if they were a different kind of instrument added to the orchestra. Accordingly, the loudspeakers are to be placed on the stage among the instruments of the orchestra, in order to make sure that all sound

sources emanate from the same spatial direction and, ultimately, that the players feel them as being part of the same context and body.

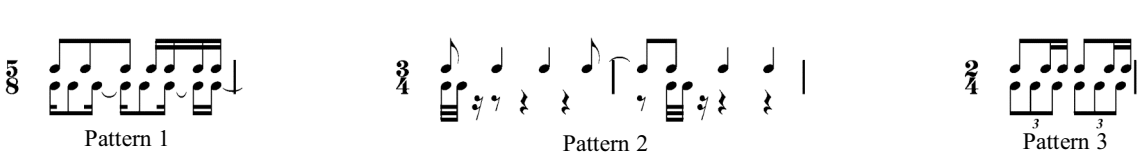
The electronic sounds relate to the orchestral ones by doubling them at some points and highlighting certain sonorities by reinforcing resonance. However, there are slight nuances of their own timbre characteristics embedded in the texture that are not exactly resonance-related material, but texture embellishments, such as subtly treated noise material, some slight pitch deviations, distortion, flanging, etc. The two sources of sound generation for the electronic part that are responsible for performing this task are the prerecorded sounds and the MIDI files. The latter are split between the sampler and the synthesizer. The ways they perform their tasks, although essentially following only one common principle, are not very similar, due to their inherent characteristics. Prerecorded sound files basically provide reinforcement of some layers of the string and brass sections, and add other materials that aren't pitch related; the sampled material used in the sampler, taken from recordings of piano and flute, is processed in order to achieve a different sound quality. Nevertheless, they still remain relatively recognizable as being derived from those instruments. This is especially true in the case of the flute, but less so in the case of the sound of the piano. The latter's attack component was cut off, retaining only the sustained portion, and causing a considerable change in its character. The sampler doesn't contribute to the texture as much as the sound files and the synthesizer do, and the reason for that is related to compositional choices. The conception of the synthesizer involves the manipulation of sound down to its partial components. In fact, the whole electronic part relates to some extent to the concepts of spectral music, as far as frequency reinforcement and manipulations of the harmonic spectrum are concerned,

both in the prerecorded sounds and the synthesizer. The synthesizer is capable of producing a fundamental tone plus seven more partials per channel. For each tone produced, a set of parameters can be manipulated on the fly, thus transforming the tone color while the music plays. The parameters that can be manipulated are pitch, waveform, volume, envelope, and the duration over which the partial envelope evolves. Regarding notation of the electronic part, only the contents of the MIDI files are presented on the score, because it is nearly impossible to represent the contents of sound files on a convincing and useful way. Further discussion of the electronic elements as they relate to the overall content of the piece will be presented as its analysis is developed.

## A Brief Rationale of Rhythm and Pitch

### Rhythm

There are a few rhythmic and some pitch elements widely used in the piece that were planned in advance. Their characteristics are explored in many different ways, greatly determining much of the overall characteristic of the work and even shaping the texture of entire sections. The rhythmic examples presented below are abstractions, free outlines of basic accents of accompaniment structures in modern Brazilian folk music, whose origins date far back in time to African roots.



Example 1: Rhythmic patterns.

These patterns are used in this piece very freely, either separately or combined with each other, and there is no specific intent of presenting them as cultural or ethnic identifiers.

Rhythmic Pattern 1 seems to be a derivation of the *Samba de Roda*[2] style; Pattern 2 is originally from the religious rites of the *Candomblé* tradition and is originally notated in $\frac{12}{8}$; Pattern 3 is from *Tambor de Crioula,* a very distinctive and continuous pulse, played by a large group of high and low percussion instruments that resemble modern congas. Pattern 2 is the mostly widely distributed throughout the work and plays a very important role over aspects that contribute to the overall coherence of the piece. It is also present in combination with Pattern 3, showing more of their characteristics in the main melodic and contrapuntal elements. Pattern 1 only appears on two occasions, at the beginning and at the very end of the work, but it has some influence on the organization of another section at the beginning of the recapitulative materials, as will be seen later on. Although these rhythmic materials are self-evident throughout the piece, they will be referred to as needed, over the course of the analytical discussions that follow.

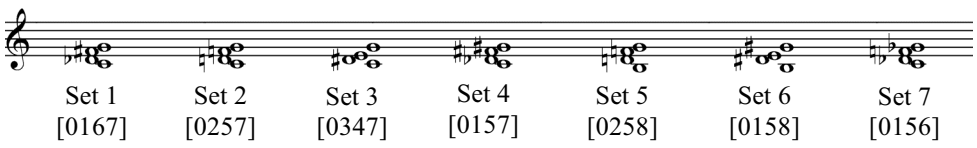
**Pitch**

Regarding pitch materials, some principles of chord construction and voice leading are presented below as the foundation of the pitch organization that governs a great part of this work. These ideas are mostly present in the sections where pitch content is more formally organized, but they also have great importance in the sections that present other kinds of more freely organized pitch collections, such as clusters,

[2] These rhythms are mostly found on the Northeastern part of Brazil. Unfortunately, an extensive explanation of their origins and practices is beyond the scope of this paper.

isolated pedals tones, etc. Also, there are some deviations from these principles that were determined based on the context in which they were involved, in such a way that some of these sets would have one or another note moved up or down within the chords.

The pitch sets shown below in Example 2 were organized based on the need to have some sonorities that would enable me to develop ideas that could relate to different realms of musical practice, such as tonality, post tonality, modality, etc., but with no specific reference to style, and which would be able to make them interact with each other in the same texture.




Example 2: Pitch sets that have major importance in the pitch structures found in the piece.

As Example 2 shows, moving the inner notes in contrary motion by semitones, the first three sets reveal the characteristics I was looking for: units that would represent crystallizations of these different practices. For instance, Set 1-[0167][3] and Set 7-[0156] (taken here as a shrinking of Set 1), are very commonly found in the post tonal repertoire, thus being a good representatives of this category; Set 2-[0257] is almost a complete pentatonic set, allowing for modal sonorities to be freely conveyed; Set 3-[0347] is a major and a minor chord at the same time, thus tonal sonorities can be very easily achieved. The other three sets are derivations of the previous three ones, and they were determined by moving the outer notes apart by semitones, a procedure that is the opposite of what was previously carried out on the first three models. Set 4-[0157] is a

[3] The pitch numbering used here takes C as 0, and the pitch constructions that involve these pitch sets will be referred to by one of these forms: [0167], Set 1, Set 1-[0167]-$T_3$, or Set 1-$T_3$, or just [0167]-$T_3$, where the numbers in brackets are the set's prime form, accompanied by a transposition level.

combination of sets 1 and 2; Sets 5-[0258] and 6-[0158] are derivations of Sets 2 and 3, respectively. These sets are also to be found in incomplete forms as subsets of themselves. Finally, after having these general pitch relations determined, a premise for chord progression was also created in order to achieve harmonic variety, just a single and simple rule: the chords should generally move by having one or two notes in common between each other and their order of progression should not be fixed. Also, where these pitch constructions mostly occur, melodic materials are freely derived from their intervallic contents, as will be presented in the following pages. It is also important to point out that, although Set 1 and 7 have a relatively important presence by defining the major characteristics of some passages, there was no intention of having any of these sonorities playing a major role over each other. It is also true that there are some sections that are dominated by the interaction of more than one of these sonorities, as if one were affecting the major sense of organization of the other.

## Analysis

The overall formal design of this work is defined, with few exceptions, by a continuous interchange between slower and faster sections, or quieter and more agitated characters, and also by the interchange of very distinctive texture qualities, which are characterized by differentiated pitch organization as well as melodic/thematic constructions. All of that is associated with an approach to orchestration that almost plays a thematic role. However, even having their own distinctive qualities and characters, these sections share among themselves a great number of elements, which are elaborated in many different ways showing sometimes a very intricate network of pitch and rhythmic relationships. Table 1 presents the distribution of all sections and their basic

characteristics. The adopted labeling system was thought in a way to privilege relationships that are founded mostly on pitch organization and melodic contents, but of course, the overall rhythmic contents and texture qualities are involved as well.

With only one exception, all sections connect to each other through relatively smooth transitions, small preludes, and postludes. At least until the end of section **C[187-247]**[4], the flow from one section to another is almost continuous.

| **A[1-41]** | **B[42-117]** | **A'[118-159]** | **B'[160-186]** | **C[187-247]** | **D[248-406]** | **A''[406-463]** |
|---|---|---|---|---|---|---|
| **a[1-12]**<br>**a1[12-26]**<br>**a2[26-41]** | **b[42-64]**<br>**b1[65-87]**<br>**b2[87-117]** | **a'[118-130]**<br>**a'1[131-141]**<br>**a'2[142-159]** | **b'[160-186]** | **c[187-217]**<br>**c1[217-227]**<br>**c2[227-238]**<br>**c3[238-247]** | **d[248-323]**<br>**d1[323-406]** | **a''[406-430]**<br>**a''1[430-444]**<br>**a''2[445-463]** |
| **Quietly Densely** | **With grace** | **Quietly** | **Dramatically** | **Calm and Uniformly Dramatically** | **With grace and precision** | **Quietly Densely** |
| Mostly freely organized pitch material<br>Freer use of rhythmic elements | More formally organized pitch material;<br>Ostinato rhythmic structures | Mostly freely organized pitch material<br>Freer use of rhythmic elements | More formally organized pitch material;<br>Ostinato rhythmic structures | More formally organized pitch material;<br>Ostinato rhythmic structures | More formally organized pitch material;<br>Ostinato rhythmic structures | Mostly freely organized pitch material<br>Freer use of rhythmic elements |

Table 1: Formal outline. First row: main sections; second inner subdivisions; third: character; fourth: basic descriptions.

Section **A[1-41]** is divided into three subsections that present distinct qualities themselves, but are basically constructed, despite the alternation of time signatures, over the same internal metrical relationships. The last two, **a1[12-26]** and **a2[26-41]** have one important element in common - the bass line texture - which, beginning at a lower register at **a1[12-26],** is placed one octave higher over the last subsection, also being doubled by the French horns (basses 2 through 6). There will be more discussion of these sections soon. The texture of section **a[1-12]**, presents a freely organized pitch construction, where the main melodic elements are carried out by piccolo and cello (doubled by horn 1 at m. 6), while the pitch sets discussed above are used as

[4] Numbers in brackets are measure numbers that represent the boundaries of sections and subsections.

independent objects, infusing the texture with elements that later on, over other sections, will be developed and cast  in different formats. After the opening little gesture performed by piccolo, trumpet, piano, and viola (at m. 1), the violin lines sustain a minor second (doubled in different registers by oboes, trumpet, and bass clarinet and basses) that increases its number of notes, becoming a cluster agglomerate that serves as a background for a number of gestures in the foreground. The cellos' upper voice and the violas (m. 6-11) follow the violins and, after the piccolo presents a first thematic element supported in counterpoint by bass clarinet (m. 4-5), the cello line immediately becomes the prominent melodic element, doubled in unison by French horn 1 and bassoon (m. 8). Notice also the change of orchestral color promoted by the entrance of the wind section as soon as the cello line takes over at m. 6: flutes, clarinet, and oboes double violins and violas an octave higher, and bassoons substitute for what the cellos were previously doing. The addition of the marimba tremolo and the artificial harmonics on the violins add still more interest to the overall sounding color of this section.  The 32$^{nd}$ note figures in the cellos' second voice (m. 2), doubled at unison by the marimba, are elements taken from rhythmic Pattern 2, which is present pervasively throughout the piece, with few exceptions, adapting itself to the specific organization of each section. Similarly, the French Horn's first appearance at m. 2 is based on one half of the same rhythm pattern. The little passage from m. 9-11 acts like a small postlude for this subsection. Bass clarinet, trumpet and English horn, with their sustained notes, help the cello line in the task of making a smooth connection to the next subsection, at m. 12, where flute 1, oboe 1, violins, and piano come together on the note E. All through section **A[1-41]**, with a very subtle involvement, the electronic part also plays an important role, by doubling the

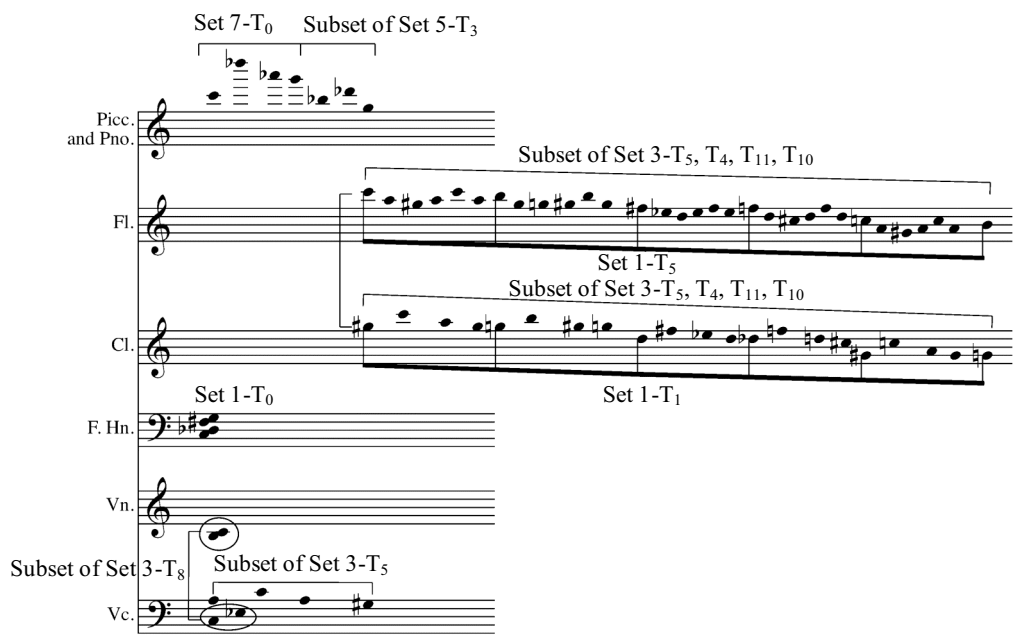
violin lines (until m. 28) and bass line (from m. 27-41). The sound files, by adding a layer of treated noise and brass, sound like sustained notes, further enriching the overall texture.

So far, the discussion has focused on the role played by the more freely organized elements, whose actual importance is maintaining a background texture and presenting the main melodic thematic materials. Next, I will discuss the role of other gestures, in both foreground and background, that vary from being like quick arabesques, sustained chords, and *ostinati*, to more directional gestures. Some of these elements are treated as if they were self-contained independent objects. Many of them reappear in similar sections further on in the piece without much transformation, other than transposition and orchestration, like a kind of signature. They are strictly related to the pitch sets presented above. The following section describes these elements, in relation to the pitch sets already presented as basic foundations.

There is an intricate relationship between all the pitch materials in the opening section of the piece, among the different orchestral groups. On the second beat of m. 2, spanning through m. 3, the $16^{th}$ note tuplets on the flute and $16^{th}$ note groups in the clarinet line present a combination of Set 1-[0167] and a subset of Set 3, both at $T_5$ (see example 3 below). Taking only the notes that fall on downbeats, Set 1 frames this whole gesture, and the subset of Set 3 is continuously transposed downwards, as Set 1 unfolds. In the French horns (mm. 2 and 4), Set 1 is also presented at another transposition level, $T_0$. Set 7-[0156] is the basis for the gestures performed by the piccolo and piano (m. 1-4), and over the last three $32^{nd}$ notes on both instruments there is an elision with a subset of Set 5-[0258], at $T_3$. At measure 1, the violins' and oboes' sustained minor second, the

trumpet part, and the bass clarinet and bass parts, associated with the 32nd notes in the cellos' second voice, makes up another subset of Set 3, at $T_8$. The upper cello line carries the same subset at $T_5$, doubling the flute line in 8th note triplets. Similar procedures also occur in the small postlude already mentioned (m. 9-11). (See the parts of piccolo, flute, marimba, and piano.) This myriad of very delicate gestures produces a very interesting agglomerate of sonorities that, governed by the melodic contents that unfolds in the cello line over mm. 6-12, leads to subsection **a1[12-26].**

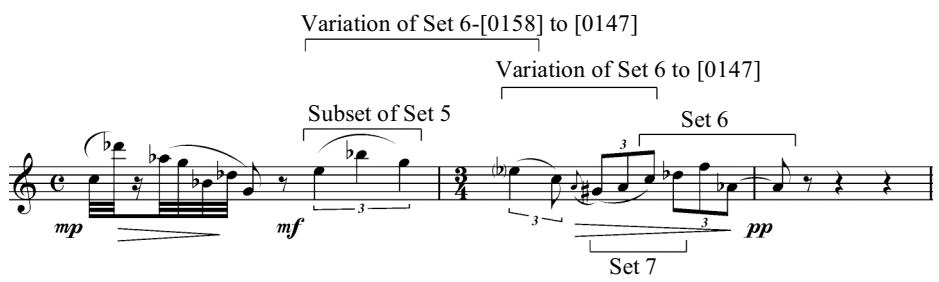
A constant concern in making this kind of texture work was related to having a certain level of amalgamation between the foreground objects and those from the background. My way of achieving this was by making sure that common tones were




Example 3: **a[1-12]**, mm. 2-3. Derivations and combinations of Sets 1, 3, 5, and 7.

shared between related and unrelated gestures, supporting them with the right balance, and also by having elements share some kind of similarity. For example, beginning in m. 2, the cellos and flute present similar kinds of gestures at different rhythmic

configurations, with the cellos providing an *ostinato* in the backgroud and the flutes presenting a more directional sequence based on the same melodic material. Another fundamental aspect, without which these relationships would have been very difficult to achieve, is orchestration, which plays a huge role by segregating specific note collections in specific timbres and registers. Before I go over the other subsections I'd like to observe the melodic constitution of the piccolo theme from third beat of mm. 4 through m. 6. One important detail is its melodic contour, the up and down sinusoidal kind of shape. As example 4 shows below, it begins with a diminished chord sonority, then passes through a melodic gesture that is a confluence of different parts of different sets, and finally ends with a major chord. The two most important features that are identifiable when other related materials appear are the first and last melodic gestures, an ascending tritone along with a descending minor third, and an ascending major third along with a descending major sixth, respectively. The downward and upward contour of the middle gesture also comes into play over other thematic material. This is the portion of the melodic structure




Example 4: Theme carried by the piccolo on mm. 4-6.

of this little theme that is most often subjected to transformations of different sorts, such as interpolations of new elements, stretching of its basic contour, etc. This middle melodic gesture also presents important characteristics that are based on the pitch sets presented above, segmented in the ways that are most commonly found in the piece,

including a transformation of Set 6-[0158] (a major seventh chord) to [0147] (a major chord with an added minor ninth).

The preceding discussion, involving subsection **a[1-12]**, may well serve to explain its counterparts, **a'[118-130]**, **a'2[142-159]**, and **a''[406-430]**, that come later, leaving room for discussing specific differentiations and restatements that will occur.

Subsection **a1[12-26]** presents one important feature introduced by the continuation of the cellos' melody from the previous subsection, which is the continuous interchange of major and minor sonorities (see m. 12 first voice). The basses, in a very low register, present this same kind of idea at another pitch level. Basses 4 and 6 alternate a major second both horizontally and vertically, derived from the cellos' second voice. Basses 3 and 4, at m. 14, have the same kind of interchange, but with an interval of a minor third (B and D, B-flat and D-flat). Basses 1 and 2 make a kind of junction of the four lower lines: at one point, they highlight the B and B-flat of basses 3 through the glissandi, and at another, the G, A, F-sharp, and G-sharp of basses 5 and 6. The violins present the same material as basses 3, 4, 5, and 6, a major sixth above in the upper register, starting at the beginning of measure 12, and retain part of overall intervallic content in the realm of thirds. Violas enter at m. 19, presenting the cello line an octave higher, with the note E replacing C on the first beat, upper voice. This polyphonic texture is enriched with the entrance of flutes, bassoons, clarinets and horns 1 and 2, presenting melodic material that is derived from the same idea of alternating between major and minor thirds. The bassoons' lines introduce a copy of the cellos (see m. 13), transposed a major second below. From the beginning of this section, the texture remains in a steady flow until it begins to build up just after the entrance of the wind instruments, reaching a

climax at m. 12: the arrival of a very thick and sonorous sequence of three chords distributed over the whole orchestra, except for the basses, which are presenting the same material they have had since m. 12, an octave higher. This texture continues to be the ground floor over which the main melodic elements unfold. French horns double the lower four bass lines an octave higher, adding warmth to the sonority. The pitch contents of the chords over the big climax at m. 25 are derived from sets 4, 5 and 6, the latter having F-sharp as a suspension that only resolves to E on the third beat of m. 7. The line played by the clarinet all throughout subsection **a2[26-41]**, is embellished by piano, while the flutes, embellished by piccolo, jointly sustain a major second that results from the last F-sharp played by the violins after the big arrival at m. 25. Notice that these four lines (piccolo, flute, clarinet, and piano) are framed by an *ostinato* pattern that is based on rhythmic pattern 1, forming a second textural layer over the basses and horns, which are further in the background. The syncopated second line of this rhythmic pattern (see Example 1 above) enters with violas on the last beat of m. 34 and is followed by the second violins at m. 38. It is interesting to note that this subsection has a rather ambiguous feeling of tempo. Despite the fact that the meter is $\frac{4}{4}$, it is not readily perceived as such, due to the way that the bass lines and related elements are constructed, allowing for the perception of a $\frac{3}{8}+\frac{2}{8}$ beat. Another important element, carried by the second clarinet and piano's left hand (m. 27), is a four-note melodic fragment that encompasses a major third, on the notes B-flat A G and F-sharp. It is played repeatedly until the end of the passage, with one brief moment of transposition at the second beat of m. 39.

In the foreground texture there are several more lyrical melodies that begin with oboe 1 at m. 32, pass to the first violins at the second beat of m. 34, over a

counter-melody in oboe 2, and finally are carried by a solo violin. All these melodies are saturated with the interplay between major and minor thirds in a way very similar to the ones presented by the wind instruments, before the big arrival, starting at measure 22. Though their function as thematic materials is not very much explored in other sections, these melodic elements will reappear in the very last subsection with some minor changes (see subsection **a''2[445-463]**). The changes include some elaboration through orchestration and pitch transposition, and more emphatically, the restatement of the little four-note melodic fragment mentioned above, in the second clarinet and piano's left hand, this time being carried by second violins as well**.** Notice also the return of subsection **b[12-41]**, now as **a''1[430-444]**. It is transposed a major second below and is presented in a much thicker and heavier orchestration, lending the texture a much darker orchestral color, but still keeping much of its character.

Turning back to **a2[26-41]**, all the action and lyricism presented over this subsection ends with a very subtle and delicate gesture in the piano, followed by triangle and a gentle descending gesture in the flutes. A graceful new section, full of character, begins in m. 42.

Section **B[42-117]** is articulated by three subsections that are firmly based on rhythmic pattern 2, with harmonic and melodic contents derived from the harmonic principles already mentioned (see Example 2 above), with some minor variations.

Subsection **b[42-64]** acts like a prelude for the two solo violin sections that follow. It is articulated by different gestures: an opening that leads to a stronger attack at m. 46, on the harmony of Set 1-[0167] (with the exception of trumpet 3, cellos and bass lines, doubled by bassoon). The opening melodic material (the $16^{th}$ notes) is extracted from the

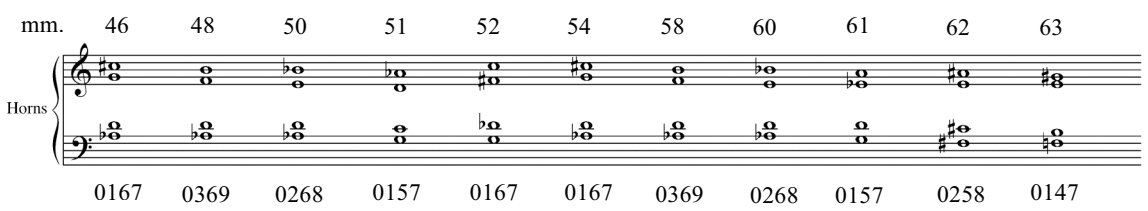
first elements of the piccolo's theme (see Example 4 above). It is presented by the violas and the 2nd bassoon (m. 48), answered two measures later by the basses, violins, piano, trombones, contrabassoon, and bass clarinet, and English horn, with a similarly derived kind of melodic gesture: the first attack is now enlarged into an even more intense gesture with thicker orchestration. Then it dissolves itself over a tail presented by violins, flute and piccolo (m. 53-55), which leads to an elaborated repetition of the materials from mm. 47-50. This elaboration acts like a bridge between this series of intense gestures and the solo violin section. It returns, even more elaborated, making another bridge at the end of the first violin section (mm. 83-87), and then reappears, still more intense and transformed, after the solo violin presents its melody for the second and last time (mm. 117). It is important to point out that the melodic gestures are carried mostly by the bass instruments and are of major importance throughout this section and others related to it. For example, the whole of section **B'[160-186]** is basically driven by this strong and dramatic melody in the bass register. At measure 46, there are some other elements worth mentioning: the material in the trumpets and cellos is taken from the cellos' previous line at the beginning of subsection **a1[12-26]** and it happens again from m. 58-65. The dovetailing gestures in the clarinets and oboes at m. 46 and m. 53-55, along with cellos, are also important elements to notice in connection with section **B'[160-186]**. There they are treated differently, with different harmony, on cellos, violas and French horns (see mm. 168 and further).

On the second beat of m. 42, the ♫♫ rhythm introduced by the flutes is soon altered in combination with ♫♩, in order to form a rhythmic structure rooted on rhythmic pattern 2. The alteration results in the pattern ♫♫ ♫♩| ♫♫ ♫♫ ♫|, an *ostinato*

that has the eighth-note figures aligned with the main accents of the basic rhythmic pattern. This element, already present in a simpler form in the flutes, oboes, and clarinets since the beginning of the section, acquires its own life with the violas all throughout the violin solo (m. 65). It is then transferred to the violins, piccolo and flutes over the big *tutti* that starts the ending of the section (m. 107).

The harmonic structure that sustains section **B[42-117]** is clearly evident in the French horns, whose major role is to maintain a steady accompaniment pattern based on rhythmic pattern 2. During the section with the solo violin part, the accompaniment is transferred in a more elaborate fashion to clarinet 2 and the bassoons (m. 65), with the piano added at m. 88. Notice also the piccolo, marking the accented parts of the accompaniment figures over the 32nd note pattern of the rhythmic pattern 2. Example 5 gives a good idea of the kind of harmonic relations that organize the whole section **B[42-117]**.

These chords, presented by the French horns since their entrance at m. 46 until m. 63, just one measure before the solo violin comes in, are based, with some



Example 5: Harmonic progressions held by French horns from measures 46 through 63.

transformations, on the pitch sets shown in example 2, changing approximately every two measures. In connection to this same subject, a quick look at the melodic content of the two solo violin sections (m. 65-83 and 87-106) will reveal that they are simply straight arpeggiations of the sustained harmony. One significant advantage of the harmonic

collections chosen for this work is the fact that they allow for melodies that can involve either short step-by-step successions of notes, or leaps of bigger intervals.

The electronic part doubles the flutes and oboes from m. 77-83, and the trumpets and cellos from mm. 84-87. It also adds some special effects that have a kind of psychological effect, in slightly drawing attention towards itself, before the solo violin comes in again. The same entrances of the electronic sounds are repeated with the same kind of texture in mm. 100-106.

In measure 106, just after the cascading gesture from the wind instruments - a repetition of the same one that concludes the first solo violin presentation (mm. 81-83) - a grand finale of section **B[42-117]** comes in an kind of intense mood, one of both joy and a kind of fury at the same time. It is a sort of consequence, a conclusion or resolution of those unresolved gestures from the beginning of the section (roughly from mm. 45-55). The bass line holds much of the melodic importance of the section, being supported by a steady pulse, a thick harmonization, internal responses from the mid-register instruments (French horns especially), and by an extremely active upper line. At measure 115, the texture that was already heading downwards with the timbral dominance of the brass section over a major seventh chord arpeggiation, sinks down on an ultra low C pedal of the C diminished chord. At this point, the active line in the upper register makes the connection to a quieter new section, **A'[118-159]**, by means of a gradual descent that fuses itself into a texture based on the opening subsection of the work, **a[1-12]**. The main difference here is the interpolation of an interlude **a'1[131-141]** and a postlude from measures 155-160 (a shorter version of that postlude). There are also some elaborations (in the strings in measures 128-130 and with upper woodwinds at mm. 152-152) that

serve as connective gestures, having their own unique contrapuntal characteristics and independence. The two main subsections surrounding the aforementioned interlude are a half step and whole step apart from their original versions, respectively. See **a'[118-130]** and **a'2[142-159]**.

The interlude and postlude's construction is a free restatement of the very intense passage that occurs at the conclusion of the solo violin subsection. The minor second interval in the viola and cello parts (third beat of m. 107) is here redistributed as a Set 7-[0156], establishing, along with some of the other sets' sonorities, the definition of the major harmonic characteristics of the passage. From another stand point, the lyrical aspect of this passage owes its character to the piccolo model already shown above in Example 4. It is important to notice the cascading conclusion of this interlude (m. 140-141), for it is just a lighter version of its model, the thick brass-dominated ending of the previous section, over the same kind of major seventh chord harmony. Similarly, the postlude is a shrunken version of the interlude, placed a semitone higher and scored in a more delicate way. It sustains a high F-sharp in the top register while descending to a low D-sharp, eventually arriving on a pedal note distributed among the low, mid, and mid-high registers. It functions as a bridge and is, at the same time, the beginning of the new section, **B'[160-186]**.

The electronic part in the interlude section combines with the percussion instruments, using sounds actually derived from a rain stick instrument. During the outer sections, the electronic part operates in the same way that it did before, at the beginning of the piece, with minor changes.

Section **B'[160-186]** is the final development of section **B[42-117]**. Its most important aspect is the elaborate contrapuntal texture built on the same elements already seen before, but now with more epic and dramatic characters, and in a slower tempo. After the introductory sustained D-sharp, a series of preparatory gestures takes place: the ascending lines on the violas, trumpets, bassoons, and oboes; a lower melodic fragment on the third beat of measure 165 carried by the bass register; and the sustained chords in the violins. Little by little, they create a sense of expectation, announcing that something bigger is about to come. Eventually, with a continuous crescendo and gradual thickening of texture, the action is finally triggered over the frenetic ascending gestures in the upper register parts and descending lower ones (see m. 167).

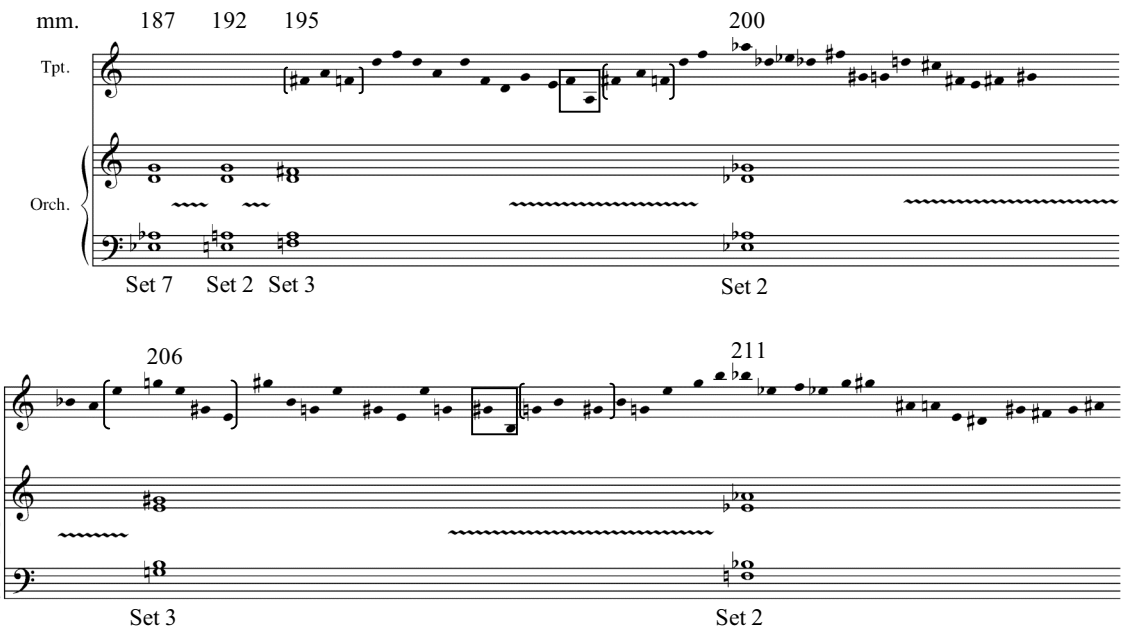
Returning now to section **B[42-117]**, if one removes the inner solo violin subsection and views the remaining material as one whole, it is evident that this new section is entirely a transformed version of this remaining content (roughly the whole section **B[42-117]** without the solo violin section). From measures 166-175, the bass line restates the materials of section **B[42-117]** and transform them into a more intense and longer melody. From measures 176-179, they develop the same kind of material previously held mainly by the piccolo and flutes, which now acquire a very robust sense of pulse. Meanwhile, the upper parts carry on with the first of two repeats of the passage from measures 111-118. From measures 180-186, the bass register begins literally repeating the same material of measures 111-118. On top of the bass register activity, the cellos, violas' and French horns take on the dovetailed gesture mentioned previously, first presented in the clarinets and oboes at m. 46, developing it through different sustained harmonies. Violas and cellos, though, spend a brief moment supporting the second

violins and basses, respectively, at measures 170-171, bringing in material related to the violas counterpoint that accompanies the solo violin subsection. At measure 168, the trumpets (supported by piano, just as in measure 52) alternate in carrying on the same kind of gesture and middle cuntrapuntal line, and supported by clarinets, violas, and English horn in measures 170-175. Following that, they assume a more harmonic role, on top of the brass section. From measures 180-186, cellos and violas, supported by clarinets, English horn, and trombones, develop a middle register melody, and finally engage in the literal repetition of the concluding passage (mm. 106-117) of the previously mentioned section. The upper register lines develop two slightly different melodic lines from the last beat of measure 168-175. From 176-183 they do a kind of *moto perpetuo* arpeggiation and accent the metrics of the line. Then, finally, they literally repeat the final tail in the same way the other lines in other registers were doing, leading to a new subject over the next section. From measures 180-186, French horns, after their activity with violas and cello, maintain the harmony and also begin repeating the same material presented in mm. 107-115. Percussion plays an important role in this section, as it does in the others, but here it specially supports the epic character mentioned above.

With the end of this section, the piece basically closes the first cycle of its "narrative". All the subsequent events, excluding the recapitulation, are from a new world of ideas, though still being relatively loyal to some aspects of the premises described at the beginning of this discussion, and also presenting some derivation of thematic materials. The main difference is more related to character, orchestration, and overall sound quality. Another distinctive aspect is that, with exception of subsection **c[187-217]**

(a solo trumpet passage), there is no use of electronic sounds, which will only come back for the last section of the piece.

At measure 187, a new pointillistic and polyphonic section begins, with its notes scattered among flutes, clarinets, English horn, metallic percussion (tubular bells, glockenspiel, vibraphone, and celesta), strings without bass, and electronic sounds that




Example 6: Reduction of subsection **c[187-217]**. Trumpet melodic contents and mostly recognizable pitch sets.

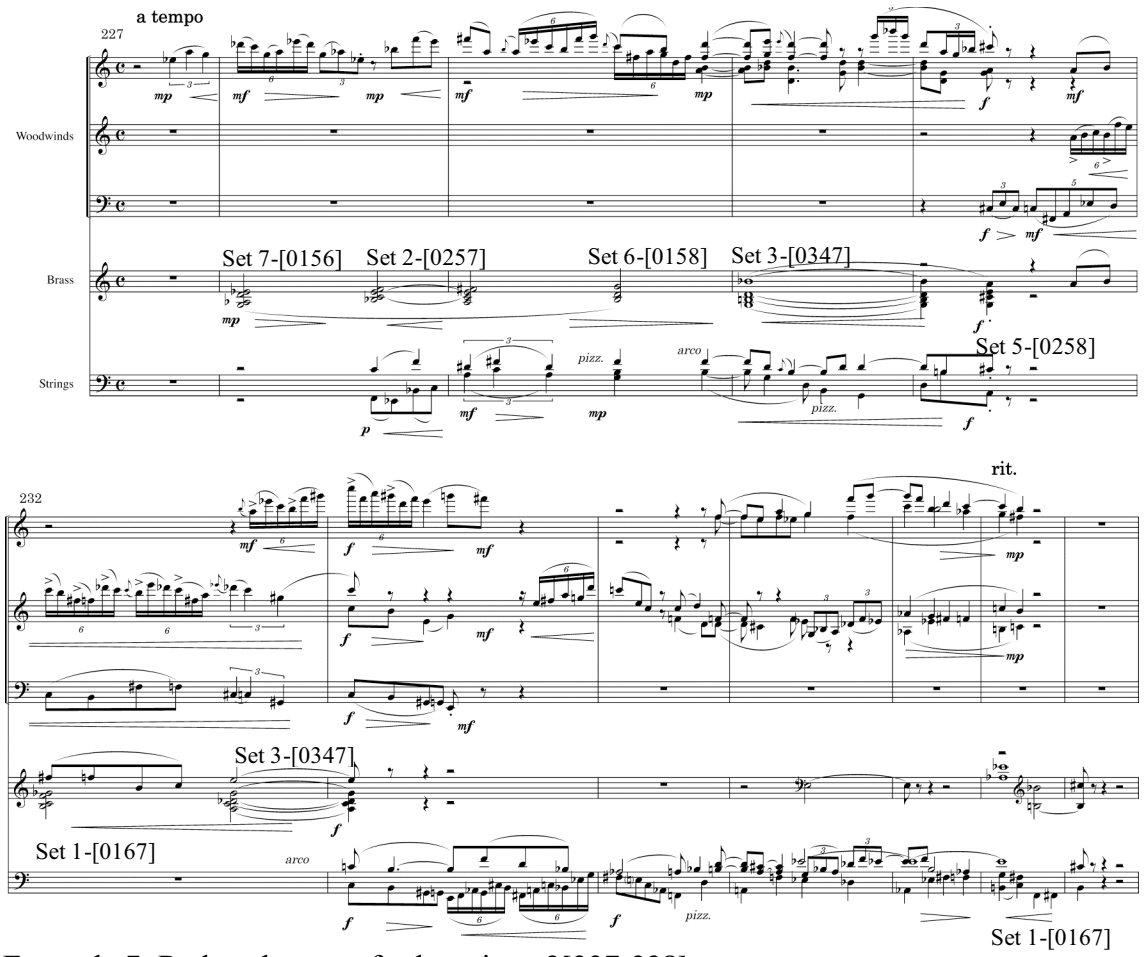
double the stringed instruments. The most important aspect of this texture is an evolving harmonic background that moves from one harmony to the other by having the individual instruments change their notes over time at an unequal pace. At a certain points some harmonies become more defined, presenting chords that are based on the harmonic models presented in Example 2. The harmonies that happen in between these more defined chords are zones of harmonic volatility that take place gradually and constantly, if compared to the above mentioned more defined harmonies.

Example 6 above shows the sonorities that result from these zones. The sonorities that are mostly clearly characterized are presented under the trumpet's melodic reduction; the wavy lines represent the other "unrecognizable" evolving harmonies. The trumpet melody is basically a parallel structure, just as is the solo violin subsection. It "walks over" this shifting kind of ground, roughly adapting itself to the terrain. However, one of its major characteristics is to convey the major/minor sonority of Set 3 in a rather lyrical mood, somehow relating back to the first section of the piece (the main melodic contents of winds and violins at mm. 22-24 and 32-41, respectively, and their related counterparts over the ending subsections of the piece). Notice also that at the beginning of each trumpet phrase, there is a connection with the beginning gesture of the piccolo theme (see Example 6 above, notes in parenthesis). The melody has the same downward interval of a sixth that ends the piccolo model, which happens at the ending of each of the first semi-phrases (see Example 6, notes inside squared enclosures), on both phrases that encompass the whole period.

The following three subsections, **c1[217-227]]**, **c2[227-238]**, and **c3[238-247]**, can easily be seen as a single three-part process, without any sort of connecting transitions. Along with the previous solo trumpet subsection, **c[187-217]**, they form the whole section **C[187-247]**, which was intended to drive away any memory of the events that came before over the interplay between slower and faster sections. Only the lines presented by bass clarinet, bassoons, cellos and violas (mm. 217-221), over the ♫ ♫ ♫| ♫ ♫ ♫| rhythmic elements relate to previous materials, but my intention with this was to make sure that the connection with those previous events would still be maintained within a different universe of elements, and also to maintain a sense of familiarity, which

would help with grasping the repeated materials that are yet to come. The appearance of these lines almost leads one to think that the music is coming back to the previously presented structures, but already at measure 218, as is shown by the upper melodic elements, this is not the case for the moment. Subsections **c1[217-227]** and **c3[238-247]** present a reconsideration of the two solo trumpet phrases with some adjustments, presented by the violins and clarinets. As a kind of comment on the current events, the solo trumpet reappears, introducing a very short version of its thematic elements in both aforementioned subsections (**c1[217-227]** and **c3[238-247])**. The second of these two subsections, **c3[238-247]**, is just one half of the duration of the first and is transposed down a whole step. The lower contrapuntal melodies presented in both the cellos and basses are visibly based on the kind of melodic gestures that have dominated a large amount of the melodic events throughout the piece (an ascending interval of a tritone followed by some interval shortly variable in length). In particular, these elements played by the basses and cellos are introducing parts of the melodic gestures that will occur during the middle section, **c2[217-237]**, which is a contrasting series of events more clearly related to tonal practices. At the end of each of the outer subsections, there are closing gestures in the brass and percussion that are characterized by insertions of cluster-like elements. This creates a relatively strong sense of tension, especially at the end of the first subsection (mm. 225-227). Even though it does not have any connection with the voice leading process of the other events that are concomitantly taking place, it provides a sense of resolution by simply fading itself out and allowing a new sonority to emerge. The other related counterpart to the one just mentioned (mm. 225-227)  disappears into the oblivion, silence, and resonance of itself (mm. 243-247) during the grand pause. The

middle contrasting subsection that comes in with the pickup of measure 228 is a relatively freely constructed passage that contains a great number of tonal sonorities. These sonorities are continuously infused with swelling melodic gestures, which are actually based on the same kind of harmonic structures presented before as models. It is




Example 7: Reduced score of subsection **c2[227-238]**.

worth considering, though, that even though these tonal sonorities are related to the same principles, there is a more dominant-sounding quality, and the chord progressions are more focused on conveying this specific tonal quality. It is very noticeable again that it is the chord progressions in the French horn part that really guide the whole subsection **c2[227-238]**.

Example 7 above shows the primary pitch elements that make up this subsection. Once again, orchestration plays a very important role in segregating certain sonorities at some defined color and register. For instance, on the G major-minor chord at measure 230, I am careful to ensure that there aren't any B-flats and B naturals placed in the same register. Thus, B-flats are only placed from B-flat$^{3}$ and above and Bs, only from B$^{2}$ and below. Notice that the harmonic flow is more strictly organized until m. 230. After that, there is a set of freely organized, scattered, and fragmented material that, in one way or another, is still related to the same kind of harmonic thinking. It forces a feeling of a "very dirty" deceptive cadence on B, at the end of the subsection (mm. 237-238).

The next section, **D[248-406]**, starts just after the grand pause, when all the resonances left behind by the Chinese gong tremolo and the timpani recede. It brings a fresh and renewed flavor to the older elements, now vested with a brand new rhythmic framework and orchestration. The texture is almost like chamber music, with some moments of very delicate passages and others with more intense characters. Because of the fact that it re-uses previously stated material from nearly the beginning of the piece, essentially in its entirety, it may suggest the idea of recapitulation. But the actual recapitulation only occurs at the conclusion of this section, with the return of the sections that had started the piece, beginning at measure 406.

The metric structure, an accompaniment pattern made up of alternating time signatures in which the eighth-note segmentation defines the basic pattern of accents, is what drives the whole section. Some breaks in this metric structure occur at different points, in order to provide variety and interest. The pattern is constructed by

putting together the time signatures of rhythmic patterns 3 and 1, respectively. This generates the sequence $\frac{2}{4}\ \frac{3}{8}\ \frac{2}{8}\ \frac{2}{4}\ \frac{3}{8}\ \frac{2}{8}\ \frac{3}{8}\ \frac{2}{8}$, which is a compound pattern that presents an interesting unevenness because of the repetition of its two final time signatures, $\frac{3}{8}\ \frac{2}{8}$. Looking closer at measures 283-284, one can notice the first break in this pattern, $\frac{3}{8}\ \frac{2}{4}$. From measures 293-322, the model is again varied into a new compressed format $\frac{2}{4}\ \frac{3}{8}\ \frac{2}{8}\ \frac{3}{8}$, which makes up the framework for the closing gestures of this first subsection, **d[248-323]**. Everything explained above, regarding the combination of these time signatures, applies literally in the following subsection **d1[323-406]**, which is an exact repetition of the previous one. The only exception is the interpolation of two events in the wind section in a $\frac{3}{4}$ time signature, from measures 384-387, and 398-401, respectively. Now that the basic elements of the metric structure that governs this whole section have been explained, let's take a look at the other essentials that form this section.

Throughout this section, justice is done to the solo violin theme that was left behind in the construction of section **B'[160-186]**, for its two presentations come back with a very quick-witted kind of mood shared by clarinets and piccolo. The two solo violin subsections are presented here with very few transformations, just enough to adapt to the metric structure and contrapuntal devices. Each time that this theme is presented over the two subsections, it is divided into two halves, where the first is roughly the complete theme and the second just half of it. Only carried by the two clarinets dovetailing different portions of it, the first half starts at the pickup of measure 256 and ends at measure 285. The second starts immediately afterwards, at that same measure, and goes until measure 293. The closing events that highlight and ultimately drive the rupture in the presentation of this melodic material start at measure 281, one measure

before the entrance of the brass instruments. This is followed by the involvement of almost all the other instruments of the temporarily reduced orchestra that characterizes this section's instrumentation as a whole. The events that follow from measure 293 until the end of this first subsection don't present a clearly defined linear melodic structure, but instead feature a continuous alternation of up and down gestures on the wind instruments. These serve to accentuate the steady punchy attacks of the violins (violas and cellos join them at the closing passage at measure 319) and the less punchy but firm markings of piano and marimba. The harmonic contents of the entirety of this section, and especially over this passage in question, are still rooted in the harmonic premises proposed for the piece at the beginning of this text. However, they are more freely placed and there are some further deviations from those principles. The basic intent and basic characteristic of this passage (specifically from measures 299-318) is to provide a gradual upward motion that, after reaching a higher ceiling, suddenly falls onto the aforementioned closing gesture (measures 319-322), leading the subsection to its conclusion and immediately bridging with its restatement. As mentioned, this new subsection, **d1[323-406]**, is an exact repetition of its predecessor. However, for the sake of variety and maintenance of interest, some minor changes of orchestration were provided. The piccolo substitutes for the clarinet at the reinstatement of the main theme (pickup of m. 331) and carries it until measure 343, when the clarinet takes it back. Just after the repetition of the rupture between the two halves (m. 360), piccolo and clarinet come together, but the piccolo soon breaks off and makes a counterpoint to the clarinet. There are two other accompaniment elements that are worth mentioning, for they deliver a very good sense of variety to the texture. They are presented mainly on violins and clarinets. The first one can be seen

starting at measure 272 in the violins, whose main function (on the first violin harmonized by the second) is to double the clarinet every two 16th notes apart, inducing a sense of forward motion to the beat. The second element, also in the violins, is a combination of the first one with gestures borrowed from the violas, which first occur at measure 118, but played at a faster rate. This same procedure occurs in the clarinet part in measure 331 and following.

The interpolated material presented by the wind instruments starting at measures 384 and 398, respectively, has the function of creating conditions for breaking down the nearly uninterrupted *ostinato* pattern that has ruled the section. The winds present some freely constructed harmonic material, over which the bassoon refreshes our minds by presenting, over the first interpolated passage, a snippet of the viola material that served as a counterpoint to the solo violin subsections. The second passage doesn't have that feature. However, over the closing gestures at measures 402-406, the English horn presents the same kind of borrowed material. The element borrowed from the viola part has a somewhat similar function to that of the material presented by cellos, violas, bassoons, and bass clarinet, starting in measure 217, as if welding one section to another. Here, at the beginning of the new section (m. 406), this melodic fragment is returned to the violas and then given back again to the dovetailed bassoons, which are in charge of fusing it with the 16th notes of the violas, leading the music to restore itself to its origins, at measure 410.

From measure 410 onwards, the piece recapitulates its whole first section with changes in orchestration and pitch transposition, as was already pointed out when they were discussed at the beginning of this paper. Thus, any further discussion may

sound unnecessary and a bit redundant. However, I would like to mention the short intrusion of a snippet of the solo trumpet subsection that invades the events from measures 454-460. The solo trumpet enters like a distant echo, with piano and piccolo adhering to the current harmonic contents, and it is immediately followed by the solo violin, which leads the music to its closing. Regarding the electronic sounds, the only difference, other than some changes in the harmonic spectrum of the lines played by the synthesizer, is the fact that the French horn lines (starting at m. 443) are reinforced by sound file playback, which adds a kind of transformed metallic sound, infused with some filtered noise.

I would like to briefly express some final thoughts on my approach to orchestration, and also explain the title of the work. I decided that in the slower sections, the orchestra should be like a pallet of colors that I would use to convey some specific sonorities that are not centered on traditional family doublings, and that would not present a thicker mass of sounds. The one exception is the subsection that starts at measure 431, with the reinforcement of the polyphony over all the orchestral families. Regarding the other sections, I decide to have a more traditional approach, where there are specific relationships between register and orchestral families, thus leading me to generally double the instruments according to their voice positioning in their own family. i.e, basses go along with tuba and bass trombone, cellos with bassoons, etc. There is another aspect worthy of consideration, which is the role played by the piano and occasionally by the marimba. My approach to the piano part was that it should provide a melodic and harmonic welding between sections, by means of presenting gestures that I have previously referred to as arabesques. Therefore, these little gestures (for example,

see measures 151, 161, 408, and 418-419, among others) have a great deal of importance in providing textural color and a certain sense of finishing to the passages in which they are involved. The timbre of the piano has the great advantage of facilitating these connections by acting almost like a percussion instrument, such as the way it is used in nearly the entirety of section **D[248-406]**.

The title “Trails by a River” derives from several different factors that were important in the compositional process, some musical and some extra-musical. Musically, it refers to the different realms of musical practice utilized in the piece, which were explained at the beginning of this paper. The extra-musical aspect of this title refers to the fact that a great number of the solutions to the musical problems I encountered during the compositional process were resolved while I was walking along the vicinal trails that parallel the Colorado River, which crosses the city of Austin, Texas. The many different events, sights, and people I saw during these daily walks always gave me great motivational impulses. But this is not to suggest that the piece should be treated as a “symphonic poem,” in a Straussian manner, describing and representing literatary materials, or other events, in musical terms. Rather, certain aspects of the composition reflect the interesting multitude of relationships that exist between the River and its streams and side trails, its people, smells, and sounds. In other words, the relationship between the musical and extra-musical material is a poetic, not a literal one. Even so, I think of this piece as a celebration of all those inspirational aspects I have found in Austin’s very particular way of being.

• *Alfredo Barros* •

# Trails by a River

*For Large Orchestra and Electronic Sounds (Max/MSP)*

2007

## Instrumentation:

Piccolo
2 Flutes in C
2 Oboes,
English Horn
2 Clarinets in B♭
Bass Clarinet
2 Bassons
Contrabasson
4 Horns in F
3 Trumpets in C
2 Tenor Trombones
Bass Trombone
Bass Tuba
Timpani
Percussion 1
  Tubular Bells (shared with Percussion 2)
  Triangle
  Xylophone
Percussion 2
  Marimba
  Tubular Bells
  Glockenspiel (sounding two octaves higher than written)
  Finger Cymbals
  Woodblock
  Large Chinese Gong (Shared with Percussion 3)
Percussion 3
  Tam-Tam, including a metal stick for circular scraping
  Snare Drum
  Large Chinese Gong
  Vibraphone
  Tambourine
Percussion 4
  Bass Drum
  Suspended Cymbal (22 inches), including a contrabass bow
  Suspended Splash Cymbal (16 inches)
  Crotales ($B♭^2$-$B♭^3$ and $B♭^3$-$B♭^4$; sounding two octaves higher than written - $C^3$ is Middle C)
Piano/Celesta - One player
Strings - As many as available - Basses must be in a number of six, at least half with low C string
Computer and a sound system inclunding a no less than 8 channels mixer,
  amplifiers, and four medium or large loudspeakers with a broad frequency range.

## Markers on top of the Electronic Part:

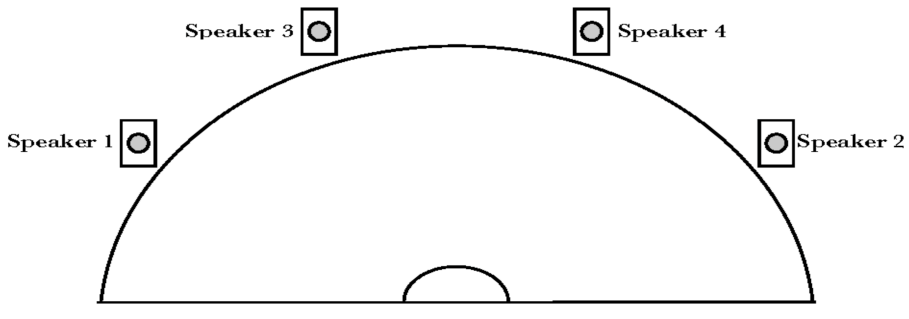
(1) - Event number, hit N to load the event contents

(S) - Soundfile playback, hit S

(M) - MIDI playback, hit M

(A) - Soundfile and MIDI playback simultaneously, hit A

## Speaker distribution on stage:



# Trails by a River

*Alfredo Barros (1966)*
Austin, Summer 2007

**Quietly** ♩= 60 **rit.**

Piccolo
Flute 1, 2
Oboe 1, 2
English Horn
Clarinet in B♭ 1, 2
Bass Clarinet
Horn in F 1, 3
Horn in F 2, 4
Trumpet in C 1, 2, 3
Percussion 2 — **Marimba**
Piano
Violin I — *con sordino*
Violin II — *con sordino*
Viola — *pizz.* — *con sordino*
Violoncello — *con sordino*
Contrabass
1 A
Speaker 1
Speaker 2
Computer
Speaker 3
Speaker 4

2 3 4 5

2

**a tempo**

**A**

6

Picc.

Fl. 1, 2

Ob. 1, 2

E. Hn.

B. Cl. 1, 2

B. Cl.

Bsn.

Hn. 1, 3

C Tpt. 1, 2, 3

T. Tbn. 1, 2

B. Tbn.

Perc 2

Perc 3

Perc 4

Pno.

Vln. I

Vln. II

Vla.

Vc.

Sp. 1

Sp. 2

CPU

Sp. 3

Sp. 4

div.

con sordino

**Tam-Tam**

with a triangle bitter on the rim

with a bass bow

**Sus. Cymbal**

arco

6 7 8 9 10

B

## Primordial

11

Picc.

Fl. 1, 2

Ob. 1, 2

E. Hn.

B. Cl.

C Tpt. 1, 2, 3

Perc 2

Perc 3

Perc 4

**Sus. Cymbal** with a bass bow

**Bass Drum**

Pno.

Vln. I

Vln. II

Vla.

Vc.

Cb. 1

Cb. 2

Cb. 3

Cb. 4

Cb. 5

Cb. 6

4

Sp. 1

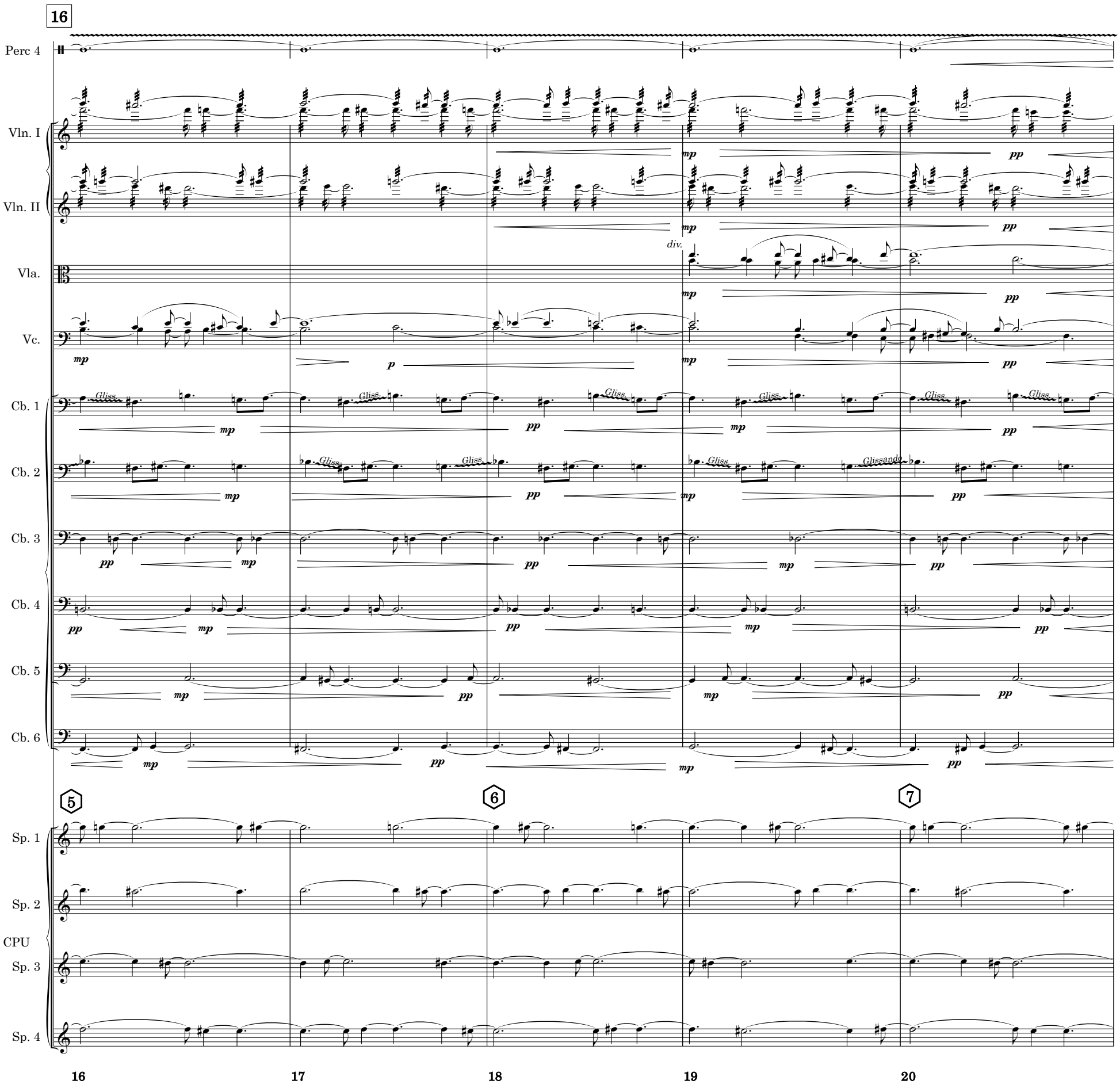
Sp. 2

CPU

Sp. 3

Sp. 4

11 12 13 14 15


16
Perc 4
Vln. I
Vln. II
Vla.
Vc.
Cb. 1
Cb. 2
Cb. 3
Cb. 4
Cb. 5
Cb. 6
mp
pp
p
div.
Gliss.
Glissando
5
6
7
Sp. 1
Sp. 2
CPU
Sp. 3
Sp. 4
16
17
18
19
20

21

Fl. 1, 2 — *a 2* — *mf*

B♭ Cl. 1, 2 — *a 2* — *mf*

B. Cl. — *p*

Bsn. — *mf*

Hn. 1, 3 — *con sordino* *a 2* — *mf*

Perc 3 — soft stick — **Tam-Tam** — *p*

Perc 4 — *mp*

Vln. I — *mp*

Vln. II — *mp*

Vla. — *mp*

Vc. — *mp*

Cb. 1 — *Glissando* — *mp*

Cb. 2 — *Glissando* — *mp*

Cb. 3 — *mp*

Cb. 4 — *mp*

Cb. 5 — *mp*

Cb. 6 — *mp*

8

Sp. 1

Sp. 2

CPU

Sp. 3

Sp. 4

**21** **22** **23** **24**

6
25
C

Picc.
Fl. 1, 2
Ob. 1, 2
E. Hn.
B♭ Cl. 1, 2
B. Cl.
Bsn.
Hn. 1, 3
Hn. 2, 4
C Tpt. 1, 2, 3
T. Tbn. 1, 2
B. Tbn.
B.Tba.
Timp.
Perc 1
Perc 2
Perc 3
Perc 4
Pno.
Vln. I
Vln. II
Vla.
Vc.
Cb. 1
Cb. 2
Cb. 3
Cb. 4
Cb. 5
Cb. 6
Sp. 1
Sp. 2
CPU
Sp. 3
Sp. 4

Tubular Bells soft mallets
Marimba soft mallets
Sus. Cymbal
con sordino
Gliss.
Glissando
niente

9
S
10
11

25 26 27 28 29

30

Picc.

Fl. 1, 2

Ob. 1, 2

B♭ Cl. 1, 2

Hn. 1, 3

Hn. 2, 4

Pno.

Vln. I

Vla.

Cb. 1

Cb. 2

Cb. 3

Cb. 4

Cb. 5

Cb. 6

12

13

Sp. 1

Sp. 2

CPU

Sp. 3

Sp. 4

30 31 32 33 34

35

Picc.

Fl. 1, 2

Ob. 1, 2

B♭ Cl. 1, 2

Hn. 1, 3

Hn. 2, 4

Pno.

Solo Vl.

Vln. I

Vln. II

Vla.

Cb. 1

Cb. 2

Cb. 3

Cb. 4

Cb. 5

Cb. 6

Sp. 1

Sp. 2

CPU

Sp. 3

Sp. 4

*mp* *mf* *pp* *p*

*solo senza sordino*

*con sordino*

*Glissando*

14

35 36 37 38

39

D

With grace, double tempo

♩ = 120

Picc.

Fl. 1, 2

Ob. 1, 2

B♭ Cl. 1, 2

Hn. 1, 3

Hn. 2, 4

Perc 1

Triangle

Pno.

Solo Vl.

Vln. II

Vla.

Cb. 1

Cb. 2

Cb. 3

Cb. 4

Cb. 5

Cb. 6

15

Sp. 1

Sp. 2

CPU

Sp. 3

Sp. 4

39 40 41 42

43

Picc.

Fl. 1, 2

Ob. 1, 2

B. Cl. 1, 2

Bsn.

Hn. 1, 3

Hn. 2, 4

1 and 2

C Tpt. 1, 2, 3

2

Xylophone

Perc 1

Perc 2

Perc 3

Snare Drum

Splash Cymbal

Perc 4

Pno.

senza sordino

div.

Vln. I

tutti

Vln. II

Vla.

tutti pizz. non div.

Vc.

Cb.

43 44 45 46 47 48 49

50

E

Picc.
Fl. 1, 2
Ob. 1, 2
E. Hn.
B. Cl. 1, 2
B. Cl.
Bsn.
C. Bn.
Hn. 1, 3
Hn. 2, 4
C Tpt. 1, 2, 3
T. Tbn. 1, 2
B. Tbn.
B.Tba.
Timp.
Perc 1
Perc 2
Perc 3
Perc 4
Pno.
Vln. I
Vln. II
Vla.
Vc.
Cb.

a 2
1 and 2
Snare Drum
div.
senza sordino

50 51 52 53 54 55

56

Picc.
Fl. 1, 2
Ob. 1, 2
E. Hn.
B. Cl. 1, 2
B. Cl.
Bsn.
Hn. 1, 3
Hn. 2, 4
C Tpt. 1, 2, 3
T. Tbn. 1, 2
B. Tbn.
Perc 1
Perc 2
Marimba
Pno.
Vln. I
Vln. II
Vla.
Vc.
Cb.
con sordino
divisi
pizz.

56 57 58 59 60 61 62

63

F

E. Hn.

B♭ Cl. 1, 2

B. Cl.

Bsn.

Hn. 1, 3

Hn. 2, 4

C Tpt. 1, 2, 3

Pno.

Solo Vl.

Vln. I

Vln. II

Vla.

Vc.

Cb.

*mp* *p* *spiccato* *divisi* *pizz. secco*

63 64 65 66 67 68

69

B♭ Cl. 1, 2

B. Cl.

Bsn.

Solo Vl.

Vln. II

Vla.

69 70 71 72 73 74

75

Fl. 1, 2

Ob. 1, 2

B. Cl. 1, 2

B. Cl.

Bsn.

C Tpt. 1, 2, 3

Perc 1

Perc 2

Pno.

Solo Vl.

Vln. I

Vln. II

Vla.

16

A

Sp. 1

Sp. 2

CPU

Sp. 3

Sp. 4

75 76 77 78 79 80 81

G

82

Fl. 1, 2
Ob. 1, 2
B♭ Cl. 1, 2
Bsn.
C. Bn.
Hn. 1, 3
Hn. 2, 4
C Tpt. 1, 2, 3
Perc 1
Perc 2
Pno.
Solo Vl.
Vln. I
Vln. II
Vla.
Vc.
Cb.
Sp. 1
Sp. 2
CPU
Sp. 3
Sp. 4

17

82 83 84 85 86 87

16

88

Picc.

B. Cl. 1, 2

Bsn.

C Tpt. 1, 2, 3

Pno.

Solo Vl.

*pizz. secco*

Vln. II

Vla.

Vc.

88 89 90 91 92 93 94

95

Picc.

Fl. 1, 2

Ob. 1, 2

E. Hn.

B. Cl. 1, 2

Bsn.

Pno.

Solo Vl.

Vln. II

Vla.

18

A

Sp. 1

Sp. 2

CPU

Sp. 3

Sp. 4

95 96 97 98 99 100 101

102

H

Picc.
Fl. 1, 2
Ob. 1, 2
E. Hn.
B. Cl. 1, 2
B. Cl.
Bsn.
C. Bn.
Hn. 1, 3
Hn. 2, 4
C Tpt. 1, 2, 3
T. Tbn. 1, 2
B. Tbn.
B.Tba.
Timp.
Perc 1
Perc 2
Perc 3
Perc 4
Pno.
Solo Vl.
Vln. I
Vln. II
Vla.
Vc.
Cb.
Sp. 1
Sp. 2
CPU
Sp. 3
Sp. 4

Tubular Bells
Snare Drum
Sus. Cymbal

19

102 103 104 105 106 107 108

109

Picc.
Fl. 1, 2
Ob. 1, 2
B♭ Cl. 1, 2
B. Cl.
Bsn.
C. Bn.
Hn. 1, 3
Hn. 2, 4
C Tpt. 1, 2, 3
T. Tbn. 1, 2
B. Tbn.
B.Tba.
Timp.
Perc 1
Perc 2
Perc 3
Perc 4
Pno.
Vln. I
Vln. II
Vla.
Vc.
Cb.

109 110 111 112 113 114

115

Picc.

Fl. 1, 2

Ob. 1, 2

E. Hn.

B. Cl. 1, 2

B. Cl.

Bsn.

C. Bn.

Hn. 1, 3

Hn. 2, 4

C Tpt. 1, 2, 3

T. Tbn. 1, 2

B. Tbn.

B.Tba.

Timp.

Perc 1

Perc 2

Perc 3

Perc 4

Chinese Gong (large) timpani hard mallets

Pno.

Vln. I

Vln. II

Vla.

Vc.

Cb.

20

A

21

22

Sp. 1

Sp. 2

CPU

Sp. 3

Sp. 4

115 116 117 118 119 120 121 122

123

J

Quietly ♩= 72 rit. ♩= ♩ a tempo

Fl. 1, 2

B. Cl. 1, 2

B. Cl.

Bsn.

C Tpt. 1, 2, 3

con sordino

Perc 3

Tam-Tam

with a triangle bitter on the rim

Perc 4

Sus. Cymbal

with a bass bow

Pno.

Vln. I

Vln. II

div.

Vla.

Vc.

pizz.

arco

Cb.

23

Sp. 1

Sp. 2

CPU

Sp. 3

Sp. 4

123 124 125 126 127 128 129

130

rit. a tempo

Fl. 1, 2
Ob. 1, 2
E. Hn.
B♭ Cl. 1, 2
B. Cl.
Bsn.
C. Bn.
Hn. 1, 3
Hn. 2, 4
C Tpt. 1, 2, 3
T. Tbn. 1, 2
B. Tbn.
Perc 3
Perc 4
Pno.
Vln. I
Vln. II
Vla.
Vc.
Cb.

con sordino
senza sordino
circular scraping with a metallic stick

130 131 132 133 134 135 136 137 138 139

22

140

K

rit.

a tempo ♩= 60

Picc.

Fl. 1, 2

Ob. 1, 2

E. Hn.

B. Cl. 1, 2

B. Cl.

Bsn.

C. Bn.

Hn. 1, 3

Hn. 2, 4

C Tpt. 1, 2, 3

Tubular Bells

Perc 1

Marimba

Perc 2

Chinese Gong (large)

timpani hard mallets

Perc 3

Perc 4

Pno.

Vln. I

Vln. II

Vla.

Vc.

Cb.

24

A

Sp. 1

Sp. 2

CPU

Sp. 3

Sp. 4

140 141 142 143

144

Picc.
Fl. 1, 2
Ob. 1, 2
E. Hn.
B. Cl. 1, 2
B. Cl.
Bsn.
Hn. 1, 3
Hn. 2, 4
Perc 2
Perc 3
Pno.
Vln. I
Vln. II
Vla.
Vc.
Sp. 1
Sp. 2
CPU
Sp. 3
Sp. 4

*senza sordino*

*div.*

25 26 27

144 145 146 147 148 149 150

24 L

151

Picc.

Fl. 1, 2

Ob. 1, 2

E. Hn.

B. Cl. 1, 2

B. Cl.

Bsn.

Hn. 1, 3

Hn. 2, 4

C Tpt. 1, 2, 3

con sordino

T. Tbn. 1, 2

B. Tbn.

Perc 2

Tam-Tam

with a triangle bitter on the rim

Perc 3

Sus. Cymbal

with a bass bow

Perc 4

circular scraping with a metallic stick

Pno.

Vln. I

Vln. II

Vla.

Vc.

Cb.

sul ponticello

pizz.

arco

ord.

Sp. 1

Sp. 2

CPU

Sp. 3

Sp. 4

151 152 153 154 155 156

157

rit. Dramatically ♩= 72

M

Fl. 1, 2

Ob. 1, 2

E. Hn.

B. Cl. 1, 2

B. Cl.

Bsn.

C. Bn.

Hn. 1, 3

Hn. 2, 4

3 *con sordino*

4 *senza sordino*

C Tpt. 1, 2, 3

T. Tbn. 1, 2

B. Tbn.

Perc 1

Perc 2

Perc 3

Perc 4

bass drum stick

*ord.*

Bass Drum

Snare Drum

Pno.

Vln. I

Vln. II

Vla.

Vc.

Cb.

*niente*

*pizz.*

*arco*

*cresc.*

157 158 159 160 161 162 163 164

165

N

Picc.

Fl. 1, 2

Ob. 1, 2

E. Hn.

B. Cl. 1, 2

B. Cl.

Bsn.

C. Bn.

Hn. 1, 3

Hn. 2, 4

C Tpt. 1, 2, 3

T. Tbn. 1, 2

B. Tbn.

B.Tba.

Timp.

Perc 1

Perc 2

Perc 3

Perc 4

Pno.

Vln. I

Vln. II

Vla.

Vc.

Cb.

mp cresc.

mf

f

a 2

senza sordino

cresc.

div.

arco

Xylophone

Tubular Bells

165 166 167 168

169

Picc.
Fl. 1, 2
Ob. 1, 2
E. Hn.
B. Cl. 1, 2
B. Cl.
Bsn.
C. Bn.
Hn. 1, 3
Hn. 2, 4
C Tpt. 1, 2, 3
T. Tbn. 1, 2
B. Tbn.
B.Tba.
Timp.
Perc 1
Perc 2
Perc 3
Perc 4
Pno.
Vln. I
Vln. II
Vla.
Vc.
Cb.

a 2
a 3
div.
ff

169 170 171 172

173

O

Picc.

Fl. 1, 2

Ob. 1, 2

a 2

E. Hn.

a 2

B. Cl. 1, 2

B. Cl.

Bsn.

C. Bn.

Hn. 1, 3

Hn. 2, 4

a 3

C Tpt. 1, 2, 3

T. Tbn. 1, 2

B. Tbn.

B.Tba.

Timp.

Perc 1

Perc 2

ff

Perc 3

Perc 4

Pno.

Vln. I

Vln. II

Vla.

Vc.

Cb.

173 174 175 176

177

Fl. 1, 2

Ob. 1, 2

E. Hn.

B. Cl. 1, 2

B. Cl.

Bsn.

C. Bn.

Hn. 1, 3

Hn. 2, 4

C Tpt. 1, 2, 3

a 2

T. Tbn. 1, 2

B. Tbn.

B.Tba.

Timp.

Perc 1

Perc 2

Perc 3

Perc 4

Pno.

Vln. I

Vln. II

Vla.

Vc.

Cb.

177 178 179 180

181

Picc.
Fl. 1, 2
Ob. 1, 2
E. Hn.
B. Cl. 1, 2
B. Cl.
Bsn.
C. Bn.
Hn. 1, 3
Hn. 2, 4
C Tpt. 1, 2, 3
T. Tbn. 1, 2
B. Tbn.
B.Tba.
Timp.
Perc 1
Perc 2
Perc 3
Perc 4
Pno.
Vln. I
Vln. II
Vla.
Vc.
Cb.

a 2
mp
f
1
con sordino
Chinese Gong (large)
timpani hard mallets

181 182 183 184 185

P

Calm and Uniformly, same tempo

186

Fl. 1, 2

Ob. 1, 2

E. Hn.

B♭ Cl. 1, 2

B. Cl.

Bsn.

C. Bn.

Hn. 1, 3

Hn. 2, 4

C Tpt. 1, 2, 3

T. Tbn. 1, 2

B. Tbn.

B.Tba.

Timp.

Perc 1

Perc 2

Perc 3

Perc 4

Tam-Tam

bass drum stick

Pno.

Vln. I

Vln. II

Vla.

Cb.

28

M

29

Sp. 1

Sp. 2

CPU

Sp. 3

Sp. 4

186 187 188 189 190

Q

191

Fl. 1, 2

Ob. 1, 2

E. Hn.

B♭ Cl. 1, 2

C Tpt. 1, 2, 3

T. Tbn. 1, 2

Perc 1

Perc 2

Perc 3

Perc 4

Pno.

Vln. I

Vln. II

Vla.

Vc.

Sp. 1

Sp. 2

CPU

Sp. 3

Sp. 4

*p*

*f espressivo*

*pp*

Glockenspiel

Vibraphone

Crotales

*muta in* **Celesta**

30

191 192 193 194 195

196

Fl. 1, 2

Ob. 1, 2

E. Hn.

B♭ Cl. 1, 2

C Tpt. 1, 2, 3

T. Tbn. 1, 2

Perc 1

Perc 2

Perc 3

Perc 4

Cel.

Vln. I

Vln. II

Vla.

Vc.

31

32

Sp. 1

Sp. 2

CPU

Sp. 3

Sp. 4

196 197 198 199

200

Fl. 1, 2

Ob. 1, 2

E. Hn.

B. Cl. 1, 2

C Tpt. 1, 2, 3

T. Tbn. 1, 2

Perc 1

Perc 2

Perc 3

Perc 4

Cel.

Vln. I

Vln. II

Vla.

Vc.

Sp. 1

Sp. 2

CPU

Sp. 3

Sp. 4

33

34

200

201

202

203

R

204

Fl. 1, 2
Ob. 1, 2
E. Hn.
B♭ Cl. 1, 2
C Tpt. 1, 2, 3
T. Tbn. 1, 2
Perc 1
Perc 2
Perc 3
Perc 4
Cel.
Vln. I
Vln. II
Vla.
Vc.
35
Sp. 1
Sp. 2
CPU
Sp. 3
Sp. 4

204 205 206 207

208

Fl. 1, 2
Ob. 1, 2
E. Hn.
B♭ Cl. 1, 2
C Tpt. 1, 2, 3
T. Tbn. 1, 2
Perc 1
Perc 2
Perc 3
Perc 4
Cel.
Vln. I
Vln. II
Vla.
Vc.
Sp. 1
Sp. 2
CPU
Sp. 3
Sp. 4

208 209 210 211

212

Fl. 1, 2

Ob. 1, 2

E. Hn.

B♭ Cl. 1, 2

C Tpt. 1, 2, 3

T. Tbn. 1, 2

Perc 1

Perc 2

Perc 3

Perc 4

Sus. Cymbal

Cel.

Vln. I

Vln. II

Vla.

Vc.

36

Sp. 1

Sp. 2

CPU

Sp. 3

Sp. 4

212 213 214 215

216

S

Fl. 1, 2
Ob. 1, 2
E. Hn.
B. Cl. 1, 2
B. Cl.
Bsn.
T. Tbn. 1, 2
Perc 1
Perc 2
Perc 3
Perc 4
Cel.
Vln. I
Vln. II
Vla.
Vc.
Sp. 1
Sp. 2
CPU
Sp. 3
Sp. 4

ff mf f pizz.

216 217 218 219

220

Dramatically

rit.

T

a tempo

Picc.

Fl. 1, 2

Ob. 1, 2

E. Hn.

B. Cl. 1, 2

B. Cl.

Bsn.

Hn. 1, 3

Hn. 2, 4

C Tpt. 1, 2, 3

con sordino

T. Tbn. 1, 2

con sordino

B. Tbn.

con sordino

Perc 1

Perc 2

Perc 3

Perc 4

Sus. Cymbal

Cel.

muta in Piano

Vln. I

Vln. II

Vla.

Vc.

Cb.

220 221 222 223 224 225 226 227

228

Picc.
Fl. 1, 2
Ob. 1, 2
E. Hn.
B♭ Cl. 1, 2
B. Cl.
Bsn.
Hn. 1, 3
Hn. 2, 4
C Tpt. 1, 2, 3
T. Tbn. 1, 2
B. Tbn.
Perc 1
Perc 2
Perc 3
Perc 4
Pno.
Vln. I
Vln. II
Vla.
Vc.
Cb.

Xylophone
Woodblock

228 229 230 231

U

232

Fl. 1, 2
Ob. 1, 2
E. Hn.
B. Cl. 1, 2
B. Cl.
Bsn.
Hn. 1, 3
Hn. 2, 4
C Tpt. 1, 2, 3
T. Tbn. 1, 2
Perc 1
Perc 2
Perc 3
Perc 4
Pno.
Vln. I
Vln. II
Vla.
Vc.
Cb.

a 2
a 2 senza sordino
Triangle
Finger Cymbal
Sus. Cymbal
arco
pizz.

232 233 234 235 236

237 rit. a tempo

Fl. 1, 2
Ob. 1, 2
E. Hn.
B. Cl. 1, 2
Bsn.
Hn. 1, 3
Hn. 2, 4
C Tpt. 1, 2, 3
T. Tbn. 1, 2
B. Tbn.
Timp.
Perc 1
Perc 2
Perc 3
Perc 4
Pno.
Vln. I
Vln. II
Vla.
Vc.
Cb.

G. P.

a 2
a 3
con sordino
senza sordino
Tubular Bells
Glockenspiel
Chinese Gong (large)
pizz.
arco
niente

237 238 239 240 241 242 243 244 245 246 247

**V**

With grace and precision ♩ = 120

248

Fl. 1, 2
Ob. 1, 2
B♭ Cl. 1, 2
Vln. I
Vln. II
Vla.

*pizz.* *arco* *pizz.*

248 249 250 251 252 253 254 255 256 257 258

259

Fl. 1, 2
Ob. 1, 2
B♭ Cl. 1, 2
Vln. I
Vln. II
Vla.

*arco* *pizz.*

259 260 261 262 263 264 265 266

**W**

267

Fl. 1, 2
Ob. 1, 2
B♭ Cl. 1, 2
Perc 1 — **Xylophone** four soft mallets
Pno.
Vln. I
Vln. II
Vla.
Vc.

*arco* *pizz.* *divisi a 3 pizz.*

267 268 269 270 271 272 273

274

Fl. 1, 2
Ob. 1, 2
B. Cl. 1, 2
T. Tbn. 1, 2
B. Tbn.
Perc 1
Pno.
Vln. I
Vln. II
Vla.
Vc.

*con sordino*
*pizz.*
*arco*

274 275 276 277 278 279 280 281 282 283

X

284

*con sordino*

284 285 286 287 288 289 290 291

292

Y

Fl. 1, 2

Ob. 1, 2

B♭ Cl. 1, 2

Marimba

four hard mallets

Perc 2

Pno.

pizz.

arco

frog

Vln. I

Vln. II

Vla.

Vc.

292 293 294 295 296 297 298 299 300 301 302

303

Picc.

Fl. 1, 2

Ob. 1, 2

B♭ Cl. 1, 2

Perc 2

Pno.

Vln. I

Vln. II

303 304 305 306 307 308 309 310 311 312

313

Fl. 1, 2
Ob. 1, 2
E. Hn.
B♭ Cl. 1, 2
C Tpt. 1, 2, 3
Pno.
Vln. I
Vln. II
Vla.
Vc.

313 314 315 316 317 318 319 320 321 322

323

Z

Picc.
Fl. 1, 2
Ob. 1, 2
B. Cl. 1, 2
Vln. I
Vln. II
Vla.

323 324 325 326 327 328 329 330 331 332

333

Picc.
Fl. 1, 2
Ob. 1, 2
B. Cl. 1, 2
Vln. I
Vln. II
Vla.

333 334 335 336 337 338 339 340 341

342

AA

Picc.

Fl. 1, 2

Ob. 1, 2

B♭ Cl. 1, 2

Perc 1

Xylophone

four soft mallets

Pno.

Vln. I

Vln. II

Vla.

Vc.

arco

pizz.

mp

mf

342 343 344 345 346 347 348 349 350

351

T. Tbn. 1, 2

B. Tbn.

con sordino

351 352 353 354 355 356 357 358 359

360

BB

Picc.

Fl. 1, 2

Ob. 1, 2

B. Cl. 1, 2

T. Tbn. 1, 2

B. Tbn.

Perc 1

Perc 2

Marimba four hard mallets

Pno.

Vln. I

Vln. II

Vla.

Vc.

arco

pizz.

360 361 362 363 364 365 366 367 368 369

370

CC

Picc.

Fl. 1, 2

Ob. 1, 2

B. Cl. 1, 2

Perc 2

Pno.

arco frog

Vln. I

Vln. II

Vla.

Vc.

370 371 372 373 374 375 376 377 378 379

DD

380

Fl. 1, 2
Ob. 1, 2
E. Hn.
B. Cl. 1, 2
Bsn.
C Tpt. 1, 2, 3
T. Tbn. 1, 2
B. Tbn.
Perc 2
Pno.
Vln. I
Vln. II

380 381 382 383 384 385 386 387

388

Picc.
Fl. 1, 2
Ob. 1, 2
E. Hn.
B. Cl. 1, 2
Perc 2
Vln. I
Vln. II

388 389 390 391 392 393 394 395 396 397

398

EE

Fl. 1, 2
Ob. 1, 2
E. Hn.
B♭ Cl. 1, 2
C Tpt. 1, 2, 3
T. Tbn. 1, 2
B. Tbn.
Perc 2
Perc 3
Perc 4
Pno.
Vln. I
Vln. II
Vla.
Vc.
Sp. 1
Sp. 2
CPU
Sp. 3
Sp. 4

Marimba
Tambourine
Bass Drum

frog
pizz.
arco

37
M

398 399 400 401 402 403 404 405 406

407

Fl. 1, 2
E. Hn.
B. Cl. 1, 2
B. Cl.
Bsn.
Hn. 1, 3
Hn. 2, 4
C Tpt. 1, 2, 3
Tubular Bells
Perc 1
Perc 2
Chinese Gong (large)
Perc 3
Pno.
Vln. I
Vln. II
Vla.
Vc.
Cb.
Sp. 1
Sp. 2
CPU
Sp. 3
Sp. 4

38
S

407 408 409 410 411 412

413

rall.

Fl. 1, 2

E. Hn.

B♭ Cl. 1, 2

B. Cl.

Bsn.

Perc 3

Pno.

Vln. I

Vln. II

Vla.

Vc.

39

40

Sp. 1

Sp. 2

CPU

Sp. 3

Sp. 4

413 414 415 416 417 418

**FF**

Quietly ♩= 60

419

Picc.
Fl. 1, 2
Ob. 1, 2
E. Hn.
B. Cl. 1, 2
B. Cl.
Bsn.
Hn. 1, 3
Hn. 2, 4
C Tpt. 1, 2, 3
Perc 2
Marimba
Pno.
Vln. I
Vln. II
Vla.
Vc.
Cb.
Sp. 1
Sp. 2
CPU
Sp. 3
Sp. 4

41

419 420 421

422

rit.

a tempo

GG

Picc.

Fl. 1, 2

Ob. 1, 2

E. Hn.

B♭ Cl. 1, 2

B. Cl.

Bsn.

Hn. 1, 3

Hn. 2, 4

C Tpt. 1, 2, 3

T. Tbn. 1, 2

con sordino

Perc 2

Pno.

Vln. I

divisi a 3

Vln. II

div.

Vla.

Vc.

Cb.

42

Sp. 1

Sp. 2

CPU

Sp. 3

Sp. 4

422 423 424 425 426 427

HH

Primordial

428

Picc.

Fl. 1, 2

Ob. 1, 2

E. Hn.

B. Cl. 1, 2

B. Cl.

Bsn.

C. Bn.

Hn. 1, 3

C Tpt. 1, 2, 3

T. Tbn. 1, 2

B. Tbn.

B.Tba.

Perc 2

Tam-Tam with a triangle bitter on the rim

Perc 3

Sus. Cymbal with a bass bow

with a bass bow

Perc 4

Bass Drum

Pno.

Vln. I

Vln. II

Vla.

Vc.

div.

Divisi a 6

Cb. 1

Cb. 2

Cb. 3

Cb. 4

Cb. 5

Cb. 6

Sp. 1

Sp. 2

CPU

Sp. 3

Sp. 4

428 429 430 431 432 433

434

Picc.
Fl. 1, 2
Ob. 1, 2
E. Hn.
B. Cl. 1, 2
Bsn.
C. Bn.
C Tpt. 1, 2, 3
T. Tbn. 1, 2
B.Tba.
Perc 4
Vln. I
Vln. II
Vla.
Vc.
Cb. 1
Cb. 2
Cb. 3
Cb. 4
Cb. 5
Cb. 6
Sp. 1
Sp. 2
CPU
Sp. 3
Sp. 4

43

M

434 435 436 437 438 439

440

Picc.
Fl. 1, 2
Ob. 1, 2
E. Hn.
B. Cl. 1, 2
B. Cl.
Bsn.
C. Bn.
Hn. 1, 3
Hn. 2, 4
C Tpt. 1, 2, 3
T. Tbn. 1, 2
B. Tbn.
B.Tba.
Timp.
Perc 1
Perc 2
Perc 3
Perc 4
Pno.
Vln. I
Vln. II
Vla.
Vc.
Cb. 1
Cb. 2
Cb. 3
Cb. 4
Cb. 5
Cb. 6
Sp. 1
Sp. 2
CPU
Sp. 3
Sp. 4

Tubular Bells
soft mallets
Marimba
soft mallets
Tam-Tam
soft stick
Sus. Cymbal

44
S
45

Gliss.
Glissando

440 441 442 443 444 445 446

447

Picc.

Fl. 1, 2

Ob. 1, 2

B♭ Cl. 1, 2

Hn. 1, 3

Hn. 2, 4

Pno.

Vln. I

Vln. II

Vla.

Vc.

Cb. 1

Cb. 2

Cb. 3

Cb. 4

Cb. 5

Cb. 6

46

47

48

Sp. 1

Sp. 2

CPU

Sp. 3

Sp. 4

447 448 449 450 451

452

JJ

Picc.

Fl. 1, 2

Ob. 1, 2

E. Hn.

B♭ Cl. 1, 2

Hn. 1, 3

Hn. 2, 4

C Tpt. 1, 2, 3

1 *con sordino* muffled like a distant eccho

*con sordino*

T. Tbn. 1, 2

**Tubular Bells**

Perc 1

**Glockenspiel**

Perc 2

**Vibraphone**

Perc 3

**Crotales**

Perc 4

Pno.

*solo senza sordino*

Solo Vl.

Vln. I

Vln. II

Vla.

Vc.

Cb. 1

Cb. 2

Cb. 3

Cb. 4

Cb. 5

Cb. 6

Glissando

49

50

Sp. 1

Sp. 2

CPU

Sp. 3

Sp. 4

452 453 454 455 456

457

Picc.

Fl. 1, 2

*mp*

Ob. 1, 2

*pp*

*mp*

*mf*

*p*

B♭ Cl. 1, 2

*mp*

Hn. 1, 3

Hn. 2, 4

C Tpt. 1, 2, 3

*ppp*

Perc 2

Perc 3

Perc 4

Pno.

Solo Vl.

*mp*

Vln. I

Vln. II

Vla.

Vc.

Cb. 1

Cb. 2

Cb. 3

Cb. 4

Cb. 5

Cb. 6

51

52

Sp. 1

Sp. 2

CPU

Sp. 3

Sp. 4

457 458 459 460

461

rit.

♩ = 120

Picc.

Fl. 1, 2

B♭ Cl. 1, 2

Hn. 1, 3

Hn. 2, 4

Perc 1

Triangle

Pno.

Solo Vl.

Vln. I

Vln. II

Vla.

Vc.

Cb. 1

Cb. 2

Cb. 3

Cb. 4

Cb. 5

Cb. 6

53

Sp. 1

Sp. 2

CPU

Sp. 3

Sp. 4

461 462 463

# VITA

Alfredo Barros was born in Teresinha, state of Pernambuco, Brazil, on April 11 1966, the son of Maria Almeida de Barros and Ernestro Jacinto de Barros. He completed his work at the Liceu de Arte e Ofícios in 1983, and three years later entered the Universidade Federal da Bahia, where he received his Bachelor's degree in Music Composition and Conducting in 1993. In 1994 he entered the Master's program at the Universidade Federal do Rio de Janeiro, obtaining his Master's Degree in Music Composition, in 1996. Several of his compositions have received awards, including *A Mestra* for mixed a cappella choir, which won first place in the *Concurso Psychoparmacon de Obras Corais*, São Paulo, *Peça No 1 para Piano,* also won first place in the *XIX Apresentação de Compositores da Bahia*, and *Música para Cojunto de Câmara, Opus 7* won second place in the XX *Apresentação de Compositores da Bahia.* His music has been recorded by Tons & Sons, Equatorial and Minassax, and published through *Academia Brasileira de Música* and *Universidade Federal da Bahia*. His compositions have been performed in Brazil, Europe and the United States. In 1998 Alfredo was hired as a teacher by the Music Department of the Unversidade Estadual do Ceará, where he currently works. In 2003, he entered the School of Music of the College of Fine Arts of University of Texas at Austin, where he has studied with Dan Welcher, Russell Pinkston, Donald Grantham, Kevin Puts, and Bruce Pennycook.

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This treatise was typed by the author.